DRAFT, 6/30/98

SOURCE WORK GROUP NAME: Incinerator Work Group (IWG)

SOURCES/SUBCATEGORIES TO BE TESTED: Pathological waste and crematory incinerators

PURPOSE & NEED FOR TESTING: There is a need for information showing the effect that varying ratios of non-tissue pathological waste and up to 30% "other" waste have on emission levels of 129 pollutants, particularly dioxins/furans and heavy metals. The "other" material may include hospital, medical, or infectious waste.

SUMMARY OF CURRENTLY AVAILABLE TEST DATA: There are no complete data that represent variations in waste mixtures.

DATA GAPS TESTING WOULD FILL: Characterization of how emissions are effected by varying waste mixtures as a basis for MACT emission limitations.

ALTERNATIVES TO TESTING:

Most of the single-chamber, under 100 lb/hr units operate with tissue as the only waste being burned. The test with 10% non-tissue material was added in case facilities wanted to operate this way. If this is a compliance issue only, then this test case could be eliminated.

Study of existing data for particulate matter and carbon monoxide for single-chamber, under 100 lb/hr units has not shown a clear difference in emissions from the 100 to 500 lb/hr. If it is accepted that emissions of the remaining 129 pollutants are not significantly different, then testing on the single-chamber, under 100 lb/hr units is not necessary. The same limitations established for the larger units could be applied.

In reviewing the information from the September 17, 1997 Dioxin Primer presented to the ICCR, it is noted that crematories and pathological incinerators meet many of the criteria for low dioxin/furan formation. Also, the heavy metals content of the waste input and the amount of waste processed annually do not suggest high heavy metal emission rates. Some suggested alternatives to testing for developing emission limitations for heavy metals and dioxins/furans are:

- Use the HMIWI limits established for "small, remote" units.
- Use existing emission data with a factor of 10 for uncertainty.
- Estimate the amount of metals expected in the input using available information and apply a factor of 10 for uncertainty.

DESCRIPTION OF COMBUSTION UNITS AND MATERIALS TO BE TESTED: Units that are expected to be representative of all the units in the subcategory. For the

under 100 lb/hr group, the unit tested shall be of a single-chamber design. Non-tissue wastes will be those materials normally burned that are expected to give the highest emission levels.

NUMBER OF COMBUSTION UNITS AND TESTS: Three units total. One representative retort design unit in the 100 to 500 lb/hr grouping; one representative multi-chamber design unit in the greater than 500 lb/hr grouping; one representative, single chamber, under 100 lb/hr unit. There shall be eight tests total. Three tests on each of the two larger units and two tests on the under 100 lb/hr unit.. Each test consists of 3 sampling periods, or runs. See the attached matrix of test conditions.

POLLUTANTS TO BE TESTED: All the 129 pollutants in every testing scenario.

LEVERAGING OF RESOURCES: Subteam 1 members can attempt to identify units to test and help prepare the test plan.

COST: Based on $70,000 a test for all the 129 pollutants, the total cost is $420,000. A cost to test for all 129 pollutants except for dioxins/furans and heavy metals would be approximately $20,000 per test.

Matrix of Test Conditions

Size Grouping	Operating Conditions	One test at each of the following conditions		
		% Tissue	% Bedding / Container	% Other*
Greater than 500 lb/hr	Secondary chamber temp. of 1800°F	70	20	10
		30	60	10
		30	40	30
100 to 500 lb/hr	Secondary chamber temp. of 1600°F	90	10	0
		70	20	10
		30	60	10
Less than 100 lb/hr	Standard operating conditions	100	0	0
		90	0	10

*The “other” material will be determined.